

PTO-1449

SEP 17 2004

**Information Disclosure Citation  
in an Application**

Application No.

10/669,105

Applicant(s)

Goldman et al.

Docket Number

074263.0170

Group Art Unit

3672

Filing Date

September 23, 2003

**U.S. PATENT DOCUMENTS**

		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	A.	3752966	8/14/73	Foy et al.	175	40	5/28/71
	B.	5318136	6/7/94	Roswell et al.	175	24	3/6/91
	C.	5415030	5/16/95	Jogi et al.	175	39	4/8/94
	D.	5474142	12/12/95	Bowden	175	27	4/19/93
	E.	6349595	2/26/02	Civolani et al.	73	152.02	9/27/00
	F.	6516293	2/4/03	Huang et al.	703	10	3/13/00
	G.	6785641	8/31/04	Huang	703	7	10/11/00

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	H.	479866	8/5/75	SU	E21B	45/00		X
	I.	983258	12/23/82	SU	E21B	44/00		X
	J.	3207012	12/29/83	DE (w/abstract)	E21B	44/00		X
	K.	2611804	2/27/87	FR (w/abstract)	E21B	44/00		X
	L.	3704077	8/13/87	DE (w/abstract)	E21B	44/00		X
	M.	1479630	5/15/89	SU	E21B	44/00		X
	N.	1795220	2/15/93	SU	E21B	44/00		X
	O.	1796769	2/23/93	SU	E21B	44/00		X
	P.	2265923	10/13/93	GB	E21B	12/02	X	
	Q.	1231946	11/27/95	SU	E21B	44/00		X
	R.	2328467	2/24/99	GB	E21B	7/00	X	
	S.	2354852	4/4/01	GB	E21B	49/00	X	
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**NON-PATENT DOCUMENTS**

		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
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filed 9/23/2003

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			Unassigned		William A. Goldman et al.			
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			063718.0281		Unassigned		September 23, 2003	
U.S. PATENT DOCUMENTS								
		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
<div style="font-size: 2em; font-family: cursive;">A</div>	A.	3593807	7/1971	Klima	173	6		
	B.	3742966	8/1973	Foy et al.	175	40		
	C.	3971449	7/1976	Nylund et al.	173	11		
	D.	4064749	12/1977	Pittman et al.	73	152		
	E.	4195699	4/1980	Rogers et al.	173	177		
	F.	4354233	10/1982	Zhukovsky et al.	173	6		
	G.	4407017	9/1983	Zhilikob et al.	173	6		
	H.	4627276	12/1986	Burgess et al.	175	39		
<div style="font-size: 2em; font-family: cursive;">I</div>	I.	4685329	8/1987	Burgess	175	39		
FOREIGN PATENT DOCUMENTS								
		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
<div style="font-size: 2em; font-family: cursive;">J</div>	J.	0466255	1/1992	EP				
	K.	470593	8/1975	RU				
	L.	726295	4/1980	RU				
	M.	1716112	2/1992	RU				
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<div style="font-size: 2em; font-family: cursive;">N</div>	N.	E.M. Galle and H.B. Woods, "Best Constant Weight And Rotary Speed For Rotary Rock Bits", pp. 48-73, API Drilling and Production Practice,					1963	
	<div style="font-size: 2em; font-family: cursive;">O</div>	O.	R. Teale, "The Concept Of Specific Energy In Rock Drilling", p. 57-63, International Journal of Rock Mechanics, Mining Sciences, vol. 2, Great Britain					1965
		P.	Howell Word and Marvin Fisbeck, "Drilling Parameters And The Journal Bearing Carbide Bit", pp. 92-93, Drilling--DCW, Jan. 1980, first published Oct. 1979 in Tulsa, Oklahoma					Published Oct. 1979
		Q.	R.C. Pessier, M.J. Fear, "Quantifying Common Drilling Problems With Mechanical Specific Energy and A Bit-Specific Coefficient Of Sliding Friction", pp. 373-388, SPE Paper 24584, Washington, D.C					Published Oct. 1982
		R.	Michael A. Simpson, Sr., "Hand-Held Calculator Program Helps Optimize Drilling", pp. 97-101, World Oil					Apr. 1984
		S.	Kenneth L. Mason, "3-Cone Bit Selection With Sonic Logs", pp. 135-142, SPE Drilling Engineering, Jun. 1987, first published Sep. 1984 in Houston, Texas					Published Sep. 1984
<div style="font-size: 2em; font-family: cursive;">T</div>	T.	Allen D. Gault, "Measurement of Drilling Properties", pp. 143-148, SPE Drilling Engineer, Jun. 1987, published New Orleans, Louisiana, Mar. 1985					Mar. 1985	
EXAMINER <span style="font-size: 1.5em; font-family: cursive;">Dang</span>					DATE CONSIDERED <span style="font-size: 1.5em; font-family: cursive;">1/21/2005</span>			
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	A.	4694686	9/1987	Fildes et al.	324	71		
	B.	4793421	12/1988	Jasinski	173	11		
	C.	4845628	7/1989	Gray et al.	702	9		
	D.	4875530	10/1989	Frink et al.	175	27		
	E.	4914591	4/1990	Warren et al.	175	40		
	F.	4926686	5/1990	Fay	175	39		
	G.	4981037	1/1991	Holbrook et al.	166	250		
	H.	5010789	4/1991	Brett et al.	700	159		
	I.	5012674	5/1991	Millheim et al.	324	201		
<b>FOREIGN PATENT DOCUMENTS</b>								
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							YES	NO
J.								
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<b>NON-PATENT DOCUMENTS</b>								
		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)						DATE
	M.	T.M. Burgess, W.C. Lesso, "Measuring The Wear Of Milled Tooth Bits Using MWD Torque And Weight-On-Bit", SPE/IADC 13475, pp. 453-458 for pages illustration, published Mar. 1985, New Orleans, Louisiana						Published Mar. 1985
	N.	Philip Holbrook, Michael Hauck, "Petrophysical--Mechanical Math Model Real-Time Wellsite Poor Pressure/Fracture Gradient Prediction", SPE Pub. No. 16666, published Sep. 1987 in Dallas, Texas						Published Sep. 1987
	O.	E.C. Onyia, "Relationships between Formation Strength, Drilling Strength, and Electric Log Properties", pp. 605-618, SPE Drilling Engineering,						Oct., 1988
	P.	David A. Glowka, "Use of Single-Cutter Data in the Analysis of PDC Bit Designs: Part I--Development of a PDC Cutting Force Model", pp. 797-849, JPT,						Aug. 1989
	Q.	David A. Glowka, "Use of Single-Cutter Data in the Analysis of PDC Bit Designs: Part II--Development of PDC WEAR Computer Code", pp. 850-859, JPT,						Aug. 1989
	R.	E. Detournay, P. Defourny, "A Phenomenological Model for the Drilling Action of Drag Bits", pp. 13-23, International Journal of Rock Mechanics, Mineral Sciences and Geomechanical Abstracts, vol. 29, No. 1, printed in Great Britain.						1992
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		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
A.		5216917	6/1993	Detourmay	175	39	
B.		5282384	2/1994	Holbrook	702	12	
C.		5305836	4/1994	Holbrook et al.	175	26	
D.		5415030	5/1995	Jogi et al.	175	39	
E.		5442950	8/1995	Unalmiser et al.	73	152	
F.		5449047	9/1995	Schivley, Jr.	173	11	
G.		5458207	10/1995	Mattero	173	6	
H.		5704436	1/1998	Smith et al.	173	6	
I.		5767399	6/1998	Smith et al.	702	10	
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J.							
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<b>NON-PATENT DOCUMENTS</b>							
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M.		Joe Kelly, Jr., "Use break-Even Analysis to Optimize Bit Runs", pp. 75-79, World Oil					Nov. 1992
N.		Geir Hareland and L.L. Hoberock, "Use of Drilling Parameters to Predict In-Situ Stress Bounds", pp.457-471, SPE/IADC 25727					Feb. 1993
O.		J.P.R. Sparr and L.W. Ledgerwood, harvey Goodman, R.L. Graff and T.J. Moo, "Formation Compressive Strength Estimates for Predicting Drillability and PDC Bit Selection", pp. 569-578, SPE/IADC 29397, published Feb. 1995, Amsterdam, Netherlands					Published Feb. 1995
P.		R.V. Barragan, O.L.A. Santos and E.E. Maidla, "Optimization of Multiple Bit Runs", pp. 579-589, SPE/IADC 37644					Mar. 4, 1977
Q.		R.K. Bratli, G. Hareland, F. Stene, G.W. Dunsæd and G. Gjelstad, "Drilling Optimization Software Verified in the North Sea", 7 pages, SPE 39007					Aug. 1997
R.		G. Gjelstad, G. Hareland, K.N. Nikolaisen and R.K. Bratli, "The Method of Reducing Drilling Costs More Than 50 Percent", 7 pages, SPE 47342					Jul. 1998
S.		M.B. Ziaja and J.C. Roegiers, "Lithology Diagnosis Based on the Measurements of Drilling Forces and Moments at the Bit", IADC/SPE 47799, pp. 185-194					Sep. 1998
EXAMINER <i>Dmg</i>					DATE CONSIDERED <i>1/21/2005</i>		
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<b>U.S. PATENT DOCUMENTS</b>									
		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE		
<i>[Handwritten marks]</i>	A.	5965810	10/1999	Holbrook	166	254			
	B.	6021859	2/2000	Tibbitts et al.	175	431			
	C.	6109368	8/2000	Goldman et al.	175	39			
	D.	5794720	8/18/98	Smith et al.	—	—			
	E.	6131673	10/17/00	Goldman et al.	—	—			
	F.	6408953	6/25/02	Goldman et al.	—	—			
	G.								
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	J.						YES	NO	
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<b>NON-PATENT DOCUMENTS</b>									
		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)						DATE	
<i>[Handwritten marks]</i>	M.	H. Xu, T. Hatakeyama, T. Yonezawa and A. Suzuki, "Evaluation of Bit Performance Using an Advanced Drilling-Test System", IADC/SPE 47809, pp. 247-252						Sep. 1998	
	N.	H.I. Bilgesu, U. Altmis, S. Ameri, S. Mohaghegh and K. Aminian, "A New Approach to Predict Life Based on Tooth or Bearing Failures", pp. 253-257, SPE 51082						Nov. 1998	
	O.	E.T. Koskie, Jr., P. Slagel and W. Lesso, Jr., "Monitoring MWD Torque Improved PDC Bit Penetration Rates", pp. 61-67, World Oil						1998	
	P.								
	Q.								
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	S.								
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<i>[Signature: Damf]</i>					<i>[Handwritten: 1/21/2005]</i>				
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	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
A	1209299	12/19/16	Hughes	--	--	12/30/16
A.	1263802	04/23/18	Reed	--	--	08/13/17
B.	1394769	10/25/21	Sorensen	--	--	05/18/20
B	3660649	5/72	Gilchrist et al.	235	193	09/28/70
C	3761701	9/73	Wilder et al.	235	193	07/14/71
C.	4056153	11/01/97	Miglierini	175	376	07/16/76
A.	4479176	10/84	Grimshaw	364	148	02/08/82
B.	4617825	10/1986	Ruhovets	73	152.05	09/12/85
C.	4646240	02/1987	Serra et al.	364	422	04/07/86

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	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
D.	0384734A	08/29/90	EP	E21B	10/16	X	
E.	2241266	08/28/91	GB	E21B	10/46	X	
D	2328966	3/10/99	GB	E21B	10/16	X	-
F.	2343905	5/24/00	GB	E21B	10/16	X	-

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G.	European Search Report for EP03021140.3; 6 pages	02/04/2004
H.	French Preliminary Report for application no. FR 0203948. 5pages	11/21/2003
I.	K.K. Millheim, "The Role of the Simulator in Drilling Operations", SPE Drilling Engineering	10/1986
J.	Dr. Alan J. Scott, "Online Animations of Time Evolving Physical Systems", Depart of Physics, University of Wisconsin-Stout	Printed 05/04/04
K.	G. Martin Milner and Glen Corser, "Data Processing and Interpretation While Drilling", AADE National Drilling Technical Conference	2001
L.	Jim O'Hare and Osarumwense O.A. Aigbekaen Jr., "Design Index: A Systematic Method of PDC Drill-Bit Selection", IADC World Drilling	2000
M.	J Booth and M.M. Cook, "Meeting Future Drilling Planning and Decision Support Requirements: A New Drilling Simulator", SPE/IADC Drilling Conference	2001
N.	P.R. Rampersad, G. Hareland and P. Boonyapaluk, "Drilling Optimization Using Drilling Data and Available Technology", Society of Petroleum Engineers, Inc.	1994
O.	Foucault, Hubert et al., "An Integrated Drilling Optimazation for Faster and Higher Improvements in Oseberg South", Halliburton Energy Services; Hydro, 8 pages.	2003

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1/21/2005

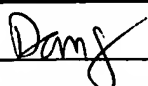
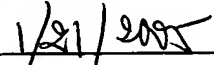
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		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	A.	4718011	01/1988	Patterson, Jr.	364	422	11/24/86
	B.	4794534	12/88	Millheim	175	40	08/08/85
	A.	4794535	12/88	Gray et al.	364	420	08/18/86
	C.	4852399	08/89	Falconer	73	151.5	07/13/88
	D.	4876886	10/89	Bible et al.	73	151.5	04/04/88
	E.	4916616	04/1990	Freedman et al.	364	422	12/08/86
	F.	4926950	05/90	Zijsling	175	39	12/20/88
	G.	4928521	05/90	Jardine	73	152.43	03/27/89
	H.	5216612	06/1993	Cornett et al.	364	468	07/16/90
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		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	A.	2360304	9/19/01	GB	E21B	10/16	X -
	B.	2363144	12/12/01	GB	E21B	10/16	X -
	C.	2363145	12/12/01	GB	E21B	10/16	X -
	D.	2363146	12/12/01	GB	E21B	10/16	X -
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	E.	W.W. Reynolds, "Economic Analysis of Drilling Plans and Contractors by Use of a Drilling Systems Approach", Journal of Petroleum Technology, XP-002261288, pages 787-793					07/1986
	F.	M.R. Fassihi et al., "Risk Management for the Development of an Offshore Prospect", SPE 52975, XP-002261289, pages 1-6					03/20/1999
	G.	I.C. Pallister et al., "Asset Optimization Using Multiple Realizations and Streamline Simulation", Society of Petroleum Engineers - SPE 59460					04/25/00
	H.	Tom H. Hill et al., "Drilling Optimization: Practice makes perfect", World Oil vol. 220, no. 4, XP-000831749, pages 63-64, 66, and 68.					04/1999
	I.	Ali G. Kadaster et al., "Drilling Time Analysis-A TQM Tool For Drilling in the '90s", Petroleum Engineer International vol. 65, no. 2, XP 000349995, pages 31-32, 35-38					02/1993
	J.	Wilson C. Chin, "Wave Propagation in Petroleum Engineering" (1994)					1994
	K.	Brochure entitled: "Twist & Shout", Smith International, Inc., (SB2255.1001), 4 pages					Printed 06/2004
	L.	Adam T. Bourgoyne Jr et. al., "Applied Drilling Engineering", Society of Petroleum Engineers Textbook Series (1991)					1991
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A. A. B. C. D. E. F. G. B.		5239467	08/1993	Kelly et al.	364	421	02/19/92	
		5251286	10/1993	Wiener et al.	395	22	03/16/92	
		5334833	08/1994	Case et al.	250	270	06/14/91	
		5369570	11/1994	Parad	364	401	11/14/91	
		5416697	05/1995	Goodman	364	422	07/31/92	
		5461562	10/1995	Tabanou et al.	364	422	06/21/94	
		5539704	07/1996	Doyen et al.	367	73	06/23/95	
		5608162	03/04/97	Ho	73	152.48	07/13/95	
	5660239	08/1997	Mueller	175	61	09/27/93		
FOREIGN PATENT DOCUMENTS								
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A. C. D. E.		2364083	1/16/02	GB	E21B	10/16	X	-
		2365899	2/27/02	GB	E21B	10/16	X	-
		2370059	6/19/02	GB	E21B	10/16	X	-
		2370060	6/19/02	GB	E21B	10/16	X	-
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F. G. H. I. J. K. L. M.		J. P. Nguyen, "Oil and Gas Field Development Techniques: Drilling" (translation 1996, from French original 1993)						1996
		"Making Hole", part of Rotary Drilling Series, edited by Charles Kirkley (1983)						1983
		"Drilling Mud", part of Rotary Drilling Series, edited by Charles Kirkley (1984)						1984
		H.G. Benson, "Rock Bit Design, Selection and Evaluation", presented at the spring meeting of the pacific coast district, American Petroleum Institute, Division of Production, Los Angeles, May, (1956)						05/1956
		J.C. Estes, "Selecting the Proper Rotary Rock Bit", Journal of Petroleum Technology, Nov., (1971), pp1359-1367						11/1971
		Sikarskie, et. al., "Penetration Problems in Rock Mechanics", American Society of Mechanical Engineers, Rock Mechanics Symposium, (1973)						1973
		Dykstra, et. al., "Experimental Evaluations of Drill String Dynamics", Amoco Report Number SPE 28323, (1994)						1994
	Kenner and Isbell, "Dynamic Analysis Reveals Stability of Roller Cone Rock Bits", SPE 28314, (1994)						1994	
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	A.	5845258	12/1998	Kennedy	705	8	06/16/95	
	A.	5963910	10/1999	Ulwick	705	7	09/20/96	
	B.	6026912	2/22/00	King et al.	-	-	--	
	B.	6044327	03/28/00	Goldman	702	11	11/13/97	
	C.	6052649	04/18/00	Goldman et al.	702	11	05/18/98	
	D.	6155357	12/5/00	King et al.	-	-	--	
	C.	6169967	01/02/01	Dahlem et al.	703	10	09/04/98	
	E.	6233498	5/15/01	King et al.	-	-	--	
	F.	6276465	8/21/01	Cooley et al.	-	-	--	
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		Docket Number		Group Art Unit	Filing Date			
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